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CHROMOSOME STUDIES IN THE SOUTHERN AFRICAN FLORA: 25–28

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25. **HAWORTHIA ANGUSTIFOLIA** Haw.

Chromosome Number: $2n = 14$ (Figs 1a, b).

Origin of Material: Woest Hill Pass, 3 km from Grahamstown, C.P. Rhodes University herbarium accession no. *24873* (RUH).

Method of Preparation: Root tip material. Colchicine pretreatment, feulgen/acetic orcein staining.

Observations: A strongly bimodal karyotype. Very small, lightly straining regions are visible distally on the long arm of the longest chromosome pair of the large set, which by homology to the situation in *coarctata* and *reinwardtii* (see below) may be assumed to represent nucleolar organisers.

Tetraploids have been recorded in the species (Riley and Majumdar, 1979).

26. **HAWORTHIA COARCTATA** Haw.

Chromosome Number: $2n = 28$ (Figs 2a, b).

Origin of Material: 16 km from Grahamstown along Port Alfred road, C.P. Rhodes University herbarium accession no. *24874* (RUH).

Method of Preparation: As in 25.

Observations: The karyotype resembles that of *angustifolia*, except that in the present species the nucleolar organiser and satellite regions are much more obvious.

The clone studied comprised tetraploid plants. Diploids and hexaploids have also been recorded (Riley and Majumdar, 1979).

27. **HAWORTHIA REINWARDTII** Haw.

Chromosome Number: a. $2n = 14$ (Figs 3a, b). b. $2n = 21$ (Fig. 4).

Origin of Material: a. Kaffir Drift, C.P. Rhodes University herbarium accession no. *24875* (RUH). b. Fraser's Camp, C.P. Rhodes University herbarium accession no. *24876* (RUH).

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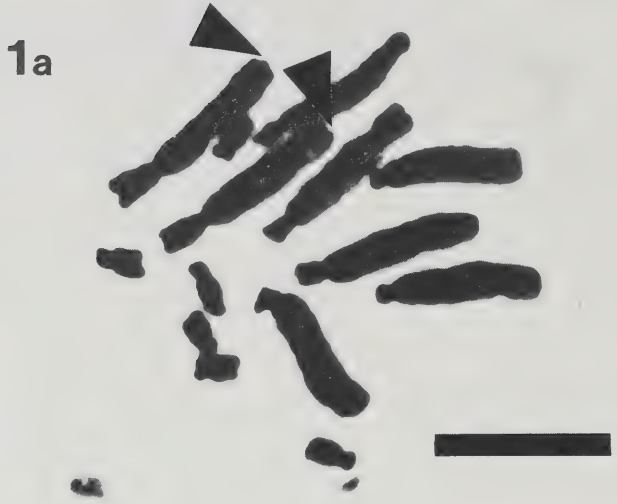

FIG. 1A.
H. angustifolia, somatic metaphase. Bar represents 10 μ, arrows indicate secondary constrictions.

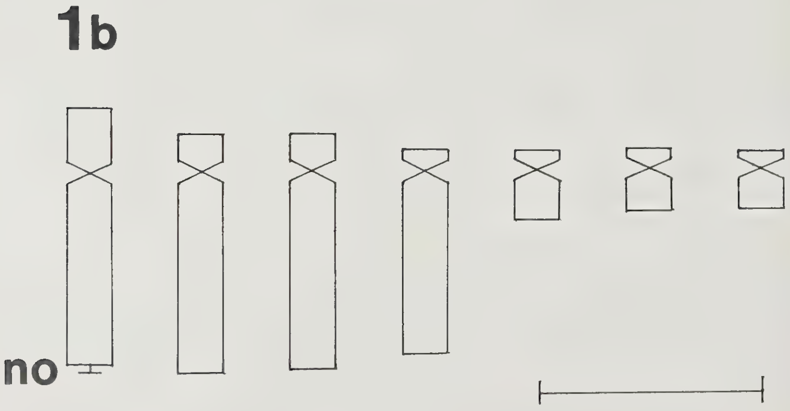

FIG. 1B.
H. angustifolia, haploid chromosome complement. Bar represents 10 μ, "no" indicates nucleolar organiser.

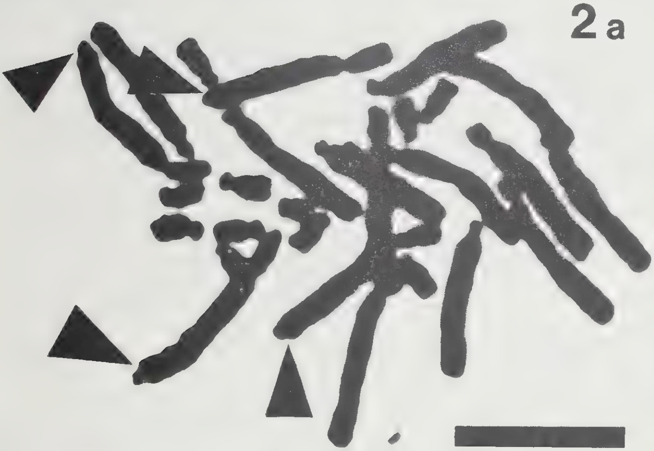

FIG. 2A.
H. coarctata, somatic metaphase. Bar represents 10 μ, arrows indicate secondary constrictions.

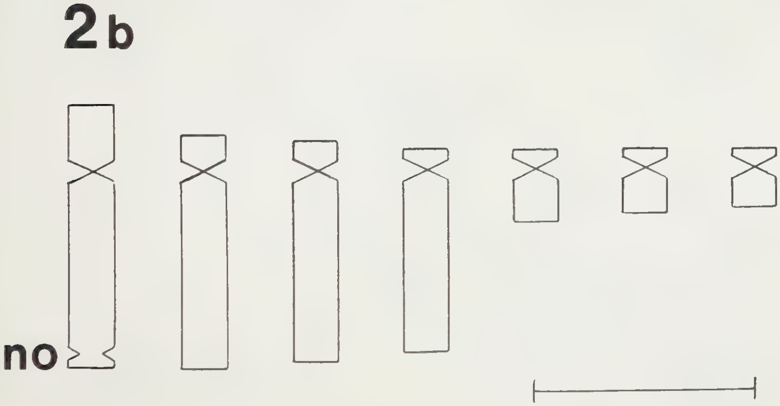

FIG. 2B.
H. coarctata, basic chromosome complement. Bar represents 10 μ, "no" indicates nucleolar organiser.

3a

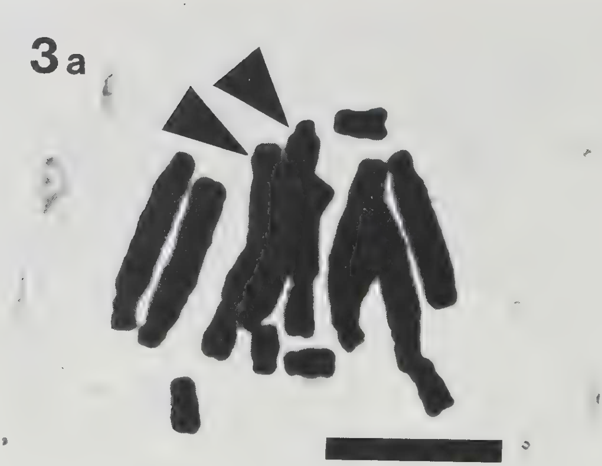

FIG. 3A.
H. reinwardtii, somatic metaphase of a diploid plant from Kaffir Drift. Bar represents 10 μ, arrows indicate secondary constrictions.

3b

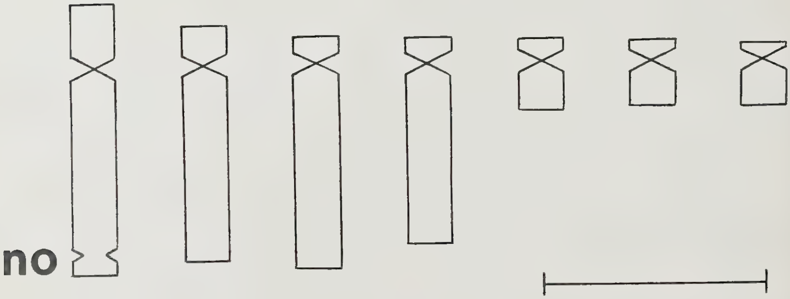

FIG. 3B.
H. reinwardtii, basic chromosome complement. Bar represents 10 μ, "no" indicates nucleolar organiser.

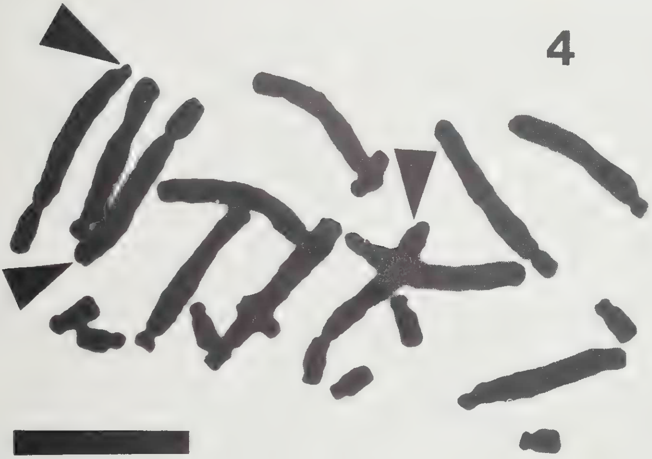

FIG. 4.
H. reinwardtii, somatic metaphase of a triploid plant from Fraser's Camp. Bar represents 10 μ, arrows indicate secondary constrictions.

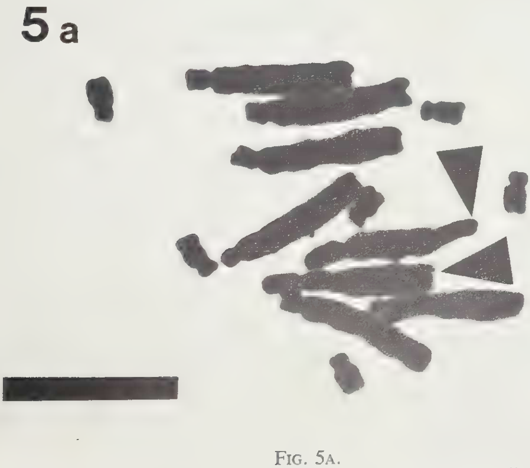

FIG. 5A.
H. translucens, somatic metaphase. Bar represents 10 μ, arrows indicate secondary constrictions.

5b

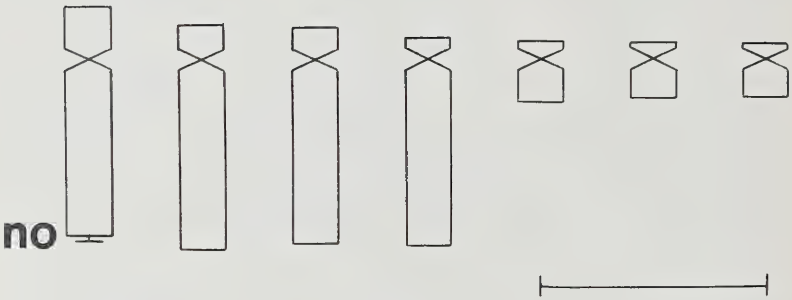

Fig. 5b.
H. translucens, haploid chromosome complement. Bar represents 10 μ, "no" indicates nucleolar organiser.

Method of Preparation: As in 25.

Observations: The karyotype resembles that of *coarctata* in that conspicuous nucleolar organiser and satellite regions are present. Two such regions are visible in the diploid, three in the triploid.

In all three species so far described, extremely small terminal protruberances were occasionally observed distally on the long arms of large chromosomes other than those which bear the conspicuous nucleolar organiser and satellite regions referred to above. These may also represent such regions but were too small to permit consistent visualization.

Tetraploids have also been recorded in the species (Riley and Majumdar, 1979).

28. **HAWORTHIA TRANSLUCENS** Haw.

Chromosome Number: $2n = 14$ (Figs 5a, b).

Origin of Material: Hellspoort, nr. Grahamstown, C.P. Rhodes University accession no. *24877* (RUH).

Method of Preparation: As in 25.

Observations: Nucleolar organiser and satellite regions very small as in *angustifolia*. Other protruberances of the type mentioned previously were not observed.

Reference

Riley, H. P. and Majumdar, S. K. 1979. *The Aloineae, a Biosystematic Survey.* Lexington, Kentucky: The University Press of Kentucky.